

REMARKS:

Applicants respectfully request reconsideration and withdrawal of the outstanding Office Action rejections based on the foregoing amendments and following remarks. Claims 1, 12, 13, 18, 22, 25, 26, and 35 have been amended. No new matter has been added.

Response to Rejections under § 103

Claims 1, 3, 12-15, 22-26, 28, and 34-38 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller (U.S. Patent 4,287,304) in view of Dahlstrom (U.S. 4,309,254). The examiner asserts that the recitation “to serve as a carrier medium” does not delimit the apparatus claims because it does not result in a structural difference between the claimed invention and the prior art. Further, the Examiner asserts that Muller discloses that the dry wastes of the milling station (seed coats) can be fed to the liquid wastes of the alcohol production to provide an animal feed, therefore it would have been obvious to subject seed coats and vinasse to the drying station to create animal feed. In response to the argument that neither reference discloses feeding dry seed coats directly to the drying station, the Examiner asserts that the limitation that the seed coats are dry is not recited in the rejected claims. Applicants submit that claim 26 does require that the seed coats be dry (see line 6 of claim 26), and has now been further limited to require that the dry seed coat portions be fed directly “from a grinding station wherein said grinding step is performed to a drying station.” Similarly, claim 1 has been amended to recite the structural limitation that the feeder is configured to feed the separated dry seed coat portions directly from said

grinding station to a drying station to function as a carrier medium for vinasse. Written description support for this amendment can be found in the paragraph bridging pages 2 and 3 of the specification. No new matter is added. Thus, Applicants respectfully submit that Muller requires the step of feeding the mill station wastes to the liquid wastes of the alcohol production (col. 5, lines 33-37) and that this mixture may subsequently be subjected to a drying operation, whereas the present claims require that “the feeder is configured to feed said separated dry seed coat portions directly from said grinding station to a drying station to function as a carrier medium for vinasse.” Thus, Muller requires an intermediate step between milling and drying, and the wastes are wet when they are fed to the dryer because they have been mixed with the liquid wastes of the alcohol production step. Therefore, there is no feeder that is configured to feed the seed coats directly from the grinding station to the dryer. Dahlstrom discloses the idea to separate fiber contained in fermented mash which is produced in fermenter 12 before a liquid containing solubles is fed to the distillation column 22. The **wet** solid portion of the mash and also the **wet** still bottoms of the evaporator 30 are fed to dryer 51, the vapor stream of which is used to partially heat the distillation column 22. Dahlstrom does not disclose the idea to feeding dry seed coat portions directly to the dryer to serve as the carrier medium for vinasse drying. No combination of the cited references discloses or suggests feeding dry seed coats directly to a dryer in which the dry seed coats are the carrier medium. This is an inventive and non-obvious feature that is lacking in the cited references, alone or in combination. Accordingly, to make the claims more clear in this aspect, claim 1 has been amended to recite that the apparatus contains “...a dryer producing exhaust vapor having a temperature permitting the

distillation of said alcohol in said distillation station, wherein said dryer contains said dry seed coat portions as the carrier medium.” Written description support for this amendment can be found in the paragraph bridging pages 2 and 3 of the specification. No new matter is added. Similarly, independent claim 26 requires that the “seed coat portions serve as carrier material for said vinasse.” Written description support for this amendment can be found in the paragraph bridging pages 2 and 3 of the specification. No new matter is added. Thus, Applicants submit that the cited art, alone or in combination, do not render obvious the presently claimed method and apparatus because the references do not suggest feeding dry seed coats directly from the grinding station to the dryer to serve as the carrier medium for the vinasse. Applicants submit that the claims are free of the cited art at least for the above reasons.

In response to the argument that Dahlstrom does not provide enough vapor for heating, the Examiner asserts that the disclosure of Dahlstrom meets the language of the claims that the vapor of the dryer heats the distillation column. The Examiner asserts that it would have been obvious to modify the alcohol producing apparatus of Muller to include the exhaust vapor of the dryer heating the distillation column as taught by Dahlstrom because it allows for a 25% savings in steam consumption due to the recycling of the exhaust vapor (see col. 2, lines 49-53 of Dahlstrom). Applicant’s respectfully disagree.

The Office Action does not address the fact that the dryer of Dahlstrom does not provide nearly enough vapor to heat distillation column 22 to permit distillation because the actual heating is provided by evaporators 29 which recompresses the vapors in compressors 38 to raise the energy level of the heating vapor, as opposed to the

present claim, which requires that the dryer produce exhaust vapor that has a temperature permitting the distillation of alcohol in the distillation station. The examiner cannot show that either Muller or Dahlstrom suggest this limitation because the apparatus of Dahlstrom actually uses compressors for this purpose and Muller does not include the feature at all. Thus, the Examiner's assertion that Dahlstrom meets the limitations of the present claims is erroneous and should be reconsidered in view of the clear use of evaporators to provide heat rather than the exhaust vapor from the dryer.

With regard to process claims 26-40, Applicants respectfully disagree with the rejections because the Examiner has neglected to take all of the claim limitations into account. In fact, it appears that the examiner's rejection of claim 26 on pages 8-10 of the Office Action selectively omits the claim limitations that are not taught or suggested by the cited references. For example, no combination of the cited references discloses the step of "feeding said separated dry seed coat portions directly to a drying station." Applicants have amended claim 26 to recite "feeding said separated dry seed coat portions directly from a grinding station wherein said grinding step is performed to a drying station" to further clarify the claimed process. Muller does not suggest this step because Muller's process discloses mixing wastes with liquid wastes of alcohol production. Further, neither Muller nor Dahlstrom disclose the limitation that the "seed coat portions serve as carrier material for said vinasse." Also, no combination of the cited references suggests the step of "producing exhaust vapor having a temperature permitting the distillation of alcohol in said distillation station." Because the vapor in Dahlstrom is insufficient for this purpose, Dahlstrom uses evaporators 29 to recompress the vapors in compressors 38 to raise the energy level of the heating vapor.

Accordingly, Dahlstrom cannot disclose the claim limitation “wherein the temperature of said exhaust vapor exclusively permits distillation in said distillation column.” The examiner has acknowledged that Muller does not disclose using exhaust vapor to heat the distillation column. Thus, as neither reference discloses or suggests the step of producing exhaust vapor having a temperature permitting the distillation of alcohol in the distillation station or the limitation that the temperature of the exhaust vapor exclusively permits distillation in the distillation column, Applicants submit that process claim 26 is clearly distinguished from the cited art. Accordingly, Applicants respectfully request that the rejections be withdrawn.

Claims 2, 4, 27 and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller and Dahlstrom in view of Dennis (U.S. Patent 3,443,958). The Examiner asserts that Dennis discloses a grinding station that separates off the seed coats in a specific ratio of seed coats to flour. Claims 2 and 4 depend from claim 1 and claims 27 and 29 depend from claim 26. Applicants submit that Dennis does not remedy the deficiencies of Muller and Dahlstrom with regard to independent claims 1 and 26 because Dennis is not directed to an apparatus at all and does not disclose the features of the presently claimed apparatus, and does not disclose the process steps of feeding separated dry seed coat portions directly from a grinding station wherein the grinding step is performed to a drying station, liquefying flour with addition of enzymes, digesting liquefied flour into a fermentable liquefied raw material, fermenting liquefied raw material to form a mash and alcohol, providing a distillation station for separating

the alcohol from the mash, forming vinasse as a residue in the distillation station, feeding the vinasse into the drying station containing the dry seed coat portions, wherein the seed coat portions serve as carrier material for the vinasse, drying the vinasse at a dew point temperature of above 95°C producing exhaust vapor having a temperature permitting the distillation of alcohol in the distillation station, and heating the distillation station with the exhaust vapor, wherein the temperature of the exhaust vapor exclusively permits distillation in the distillation column. Therefore, Applicants submit that claims 2, 4, 27 and 29 are not rendered obvious by any combination of the cited references for at least the above reasons and respectfully request that the rejections be withdrawn.

Claims 5-8 and 30-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller and Dahlstrom, in view of Reich (U.S. Patent 2,343,706). The Examiner asserts that Reich discloses an expansion cooler having a two-stage construction, a mixing condenser having a single-stage construction, and that the mixing condenser heats the product stream to a temperature below the gelatinization temperature of the raw material and the steam-jet injection heats the product stream to a temperature above the gelatinization temperature of the raw material. Applicants submit that Reich does not remedy the deficiencies of Muller and Dahlstrom in rendering the apparatus of claim 1 and the process of claim 26 obvious. Claims 5-8 depend from claim 1. Therefore, claims 5-8 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 9-10 and 32-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller and Dahlstrom, in view of Prentice (U.S. Patent 4,328,317). The Examiner asserts that Prentice discloses a degassing station between fermentation and distillation stations and that the mash is preheated under pressure and heat to allow for degassing. Applicants submit that Prentice does not remedy the deficiencies of Muller and Dahlstrom with regard to independent claims 1 and 26. Claims 9-10 depend from claim 1 and claims 32 and 33 depend from claim 26. Therefore, Applicants submit that because the combination of Dahlstrom and Muller do not render claims 1 and 26 obvious, claims 9-10 and 32-33 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 16-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller in view of Dahlstrom, as applied to claims 11-15 above, and further in view of Ginder (U.S. Patent 4,407,662). The Examiner asserts that Ginder discloses using a molecular sieve which is operated at a pressure of 1.7 bar or more. Claims 16-17 depend from claim 1. Applicants submit that Ginder does not remedy the deficiencies of Muller and Dahlstrom with regard to independent claim 1. Therefore, claims 16-17 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 18-19 and 39-40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller in view of Dahlstrom, and in view of Stoltenburg (U.S. Patent 3,968,739). The Examiner asserts that Stoltenburg discloses a vinasse processing

apparatus for decanting and a pre- and final- evaporator. Claims 18-19 depend from claim 1 and claims 39-40 depend from claim 26. Applicants submit that Stoltenburg does not remedy the deficiencies of Muller and Dahlstrom with regard to independent claims 1 and 26. Therefore, Applicants submit that claims 16-17 and 39-40 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 20-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller in view of Dahlstrom and in view of Stoltenburg, as applied to claims 18-19 above, and further in view of Ginder. The Examiner asserts that Ginder discloses dehydration of alcohol comprising a molecular sieve. Applicants submit that Ginder does not remedy the deficiencies of Muller, Dahlstrom, and Stoltenburg with regard to independent claim 1. Claims 20-21 depend from claim 1. Therefore, claims 20-21 are not rendered obvious by any combination of the cited references for at least the above reasons.

Conclusions

In view of the above amendments and remarks hereto, Applicants believe that all of the Examiner's rejections set forth in the April 2, 2010 Office Action have been fully overcome and that the present claims fully satisfy the patent statutes. Applicants, therefore, believe that the application is in condition for allowance.

The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

The Examiner is invited to telephone the undersigned if it is deemed to expedite allowance of the application.

Respectfully submitted,

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